



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D4680-041
Job Sheet 179489



Part No: D4680-041

Job Qty: 1 ea

Part Name: Skidtube Assembly



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 6/19/18

Job Tracking No:

Due Date: 7/11/18

Created By: Jesse White

Type: SOLD

Description:

Note: DWG REV F IPP REV:A 13.04.16 NEW ISSUE DD VERF:JLM IPP REV:B 13.08.08 PB2 DD VERF:JLM IPP REV:C 13.09.10 PB3 DD VERF:JLM IPP REV:D 13.11.14 AS PER DWG REV.B DD VERF:JLM IPP REV:C 14.11.24 AS PER DWG REV.C DD VERF:JLM IPP REV:D 15.06.10 AS PER DWG REV.D DD VERF:JLM IPP REV:E 16.03.23 AS PER DWG REV.E DD VERF:JLM

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea	7/11/18	7/11/18	0.00	0.00	Start Up Skidtubes-2		BE
120	Skidtubes	1 pcs	7/11/18	7/11/18	0.00	4.86	Skidtubes-2		BE
140	QC	1 pcs	7/11/18	7/11/18	0.00	0.00	QC5		BE
150	HandFinish	1 pcs	7/11/18	7/11/18	0.00	0.73	HandFinish1		SA 18-07-18
160	QC	1 pcs	7/11/18	7/11/18	0.00	0.00	QC7-4		BE
170	Skidtubes	1 pcs	7/11/18	7/11/18	0.00	4.86	Skidtubes-2		BE
180	QC	1 pcs	7/11/18	7/11/18	0.00	0.00	QC5		BE
210	HandFinish	1 pcs	7/11/18	7/11/18	0.00	0.73	HandFinish2		D.R. 18-08-15
220	Powdercoat	1 pcs	7/11/18	7/11/18	0.00	0.17	Powdercoat1		18-08-15
230	QC	1 pcs	7/11/18	7/11/18	0.00	0.00	QC3		18-08-15
260	HandFinish	1 pcs	7/11/18	7/11/18	0.00	0.73	HandFinish4		18-08-15
270	QC	1 pcs	7/11/18	7/11/18	0.00	0.00	QC5		18-08-15
300	Packaging	1 pcs	7/11/18	7/11/18	0.00	0.00	Packaging3-2		18-08-15
310	QC21-SA	1 Ea	7/11/18	7/11/18	0.00	0.00	QC21		18-08-15

Part Op 120 - 1-Cut Aft end as per dwg D4680 3-Drill Aft & Fwd Cap holes using DT8678 & DT8901 open aft cap 0.187". 4-Locate Descriptions: DT10149 & Drill Ground wire hole on top of Tube. 5-Locate DT10149 with 0.187" cleco in aft cap, then Pilot Drill all X-Bolt holes using 0.187" drill. 6-Open ground wire hole .297" at 95.75" (1 at fwd end & 2 at aft end at 20.81" ref.) 8- 3 most fwd x-bolt holes must be laid out manually, open to #30. 9-Open Aft & Fwd Cap holes using .208" drill. 10- Open X-Bolt holes to .750" (10 places) 11- Drill Rivet Holes as per Dwg D4680 using DT10065 ***DO NOT DRILL RIVET HOLES ON SECTION G-G (TWO PLACES) Open G-G to .750 12-Deburr holes.

M138874
18-06-08

170 - 1- Bond web as per Dwg D4680 & QSI 015 2- Seal all faying surfaces using proseal and rivet Doubler as per Dwg D4680. A/R Proseal Batch: _____ exp date: _____ ***LET IT CURE FOR 7HRS*** START

TIME: 3:00 PM FINISH TIME: 3:30 PM 3- Rivet doublers as per dwg Shave rivet as required, remove Proseal spill over. 4- Ream holes section C-C as per dwg, deburr 8 places 5- Swage x-bolt spacers as per Dwg D4680 and section C-C 8 places. 6- Swage x-bolt spacer as per dwg D4680 section G-G 7- Trim/Grind flush per QSI 002

210 - Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.

220 - START TIME: 3:20 PM

260 - 1- Install Ground Wire inserts as per Dwg D4680. 2-Inspect for Foreign objects 3- Install Fwd & Aft caps as per Dwg D4680 and Detail "A" & "B". Fastener must be install wet as per note (9). Seal all faying surfaces note (8) A/R 241 Sika Flex Batch: _____ Exp Date: _____ 4- Wing Walk as per Dwg D4680 and QSI 005 4.4

Batch: _____

Plex 6/19/18 3:10 PM dart.white.jesse

AUG 5 1968

340
3
C8-C

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D4680-041-BENT	Extrusion Bent	1 Ea (1 ea)	90-Start up Operation	5088995
D5520-1	Doubler	2 Ea (2 ea)	120-Skiddtubes	5082764
CR3212-5-05	Rivet	68 pcs (68 ea)	170-Skiddtubes	5093891
D4681-041	Web Assembly	1 Ea (1 ea)	170-Skiddtubes	5084645
AELS-1032-130	Rivnut	3 Ea (3 ea)	260-HandFinish	5045668
AN3C4A	Bolt	3 Ea (3 ea)	260-HandFinish	5066051
AN3C5A	Bolt	2 Ea (2 ea)	260-HandFinish	5095214
AN526C1032R10	Screw	2 Ea (2 ea)	260-HandFinish	5071664-2
D2965	Cap	1 Ea (1 ea)	260-HandFinish	5045482
D2965-3	Cap	1 Ea (1 ea)	260-HandFinish	F126369
D4686-1	Spacer	8 Ea (8 ea)	260-HandFinish	5095512 x 4
D5304-1	Crossbolt Spacer	2 Ea (2 ea)	260-HandFinish	5063873 x 4
MS20601-AD4W3	Rivet	32 Ea (32 ea)	260-HandFinish	5093547
NAS1149C0332R	Washer	5 Ea (5 ea)	260-HandFinish	5092687
D4753-1	Doubler	16 Ea (16 ea)	300-Packaging	5071663
				5082386

005034

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	D4680-041-BENT	1	1	0
120-Skiddtubes	D5520-1	2	10	0
170-Skiddtubes	CR3212-5-05	68	746	0
	D4681-041	1	2	0
260-HandFinish	AELS-1032-130	3	0	0
	AN3C4A	3	1,807	0
	AN3C5A	2	1,655	0
	AN526C1032R10	2	178	0
	D2965	1	80	0
	D2965-3	1	30	0
	D4686-1	8	82	0
	D5304-1	2	27	0
	MS20601-AD4W3	32	1,163	0
	NAS1149C0332R	5	5,349	0
300-Packaging	D4753-1	16	136	0

Part Specifications

Specifications could not be found.

rt.white.jesse

DART
AEROSPACE

Container No: 5091620

Part: D4680-041

Job No: 179489

Serial No/Batch: 5091620

Revision: F

Inspector:

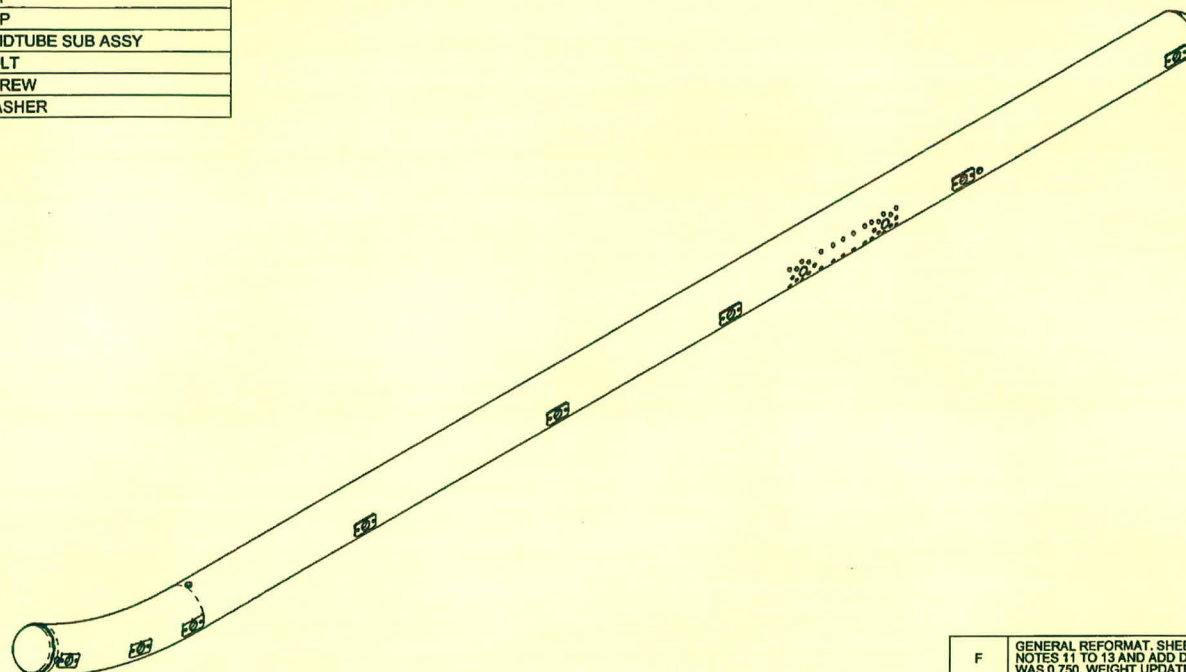
Exp Date:

Instructions: Various STC's

Date: 08/17/18

1218 Audrean Street
Hawkesbury, ON K0A 1K7
CANADA
TEL: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

ITEM	QTY -041	P/N	DESCRIPTION
	X	D4680-041	SKIDTUBE
1	1	D2965	CAP
2	1	D2965-3	CAP
3	1	D4680-043	SKIDTUBE SUB ASSY
4	2	AN3C5A	BOLT
5	2	AN526C1032R10	SCREW
6	2	NAS1149C0332R	WASHER



NOTES:

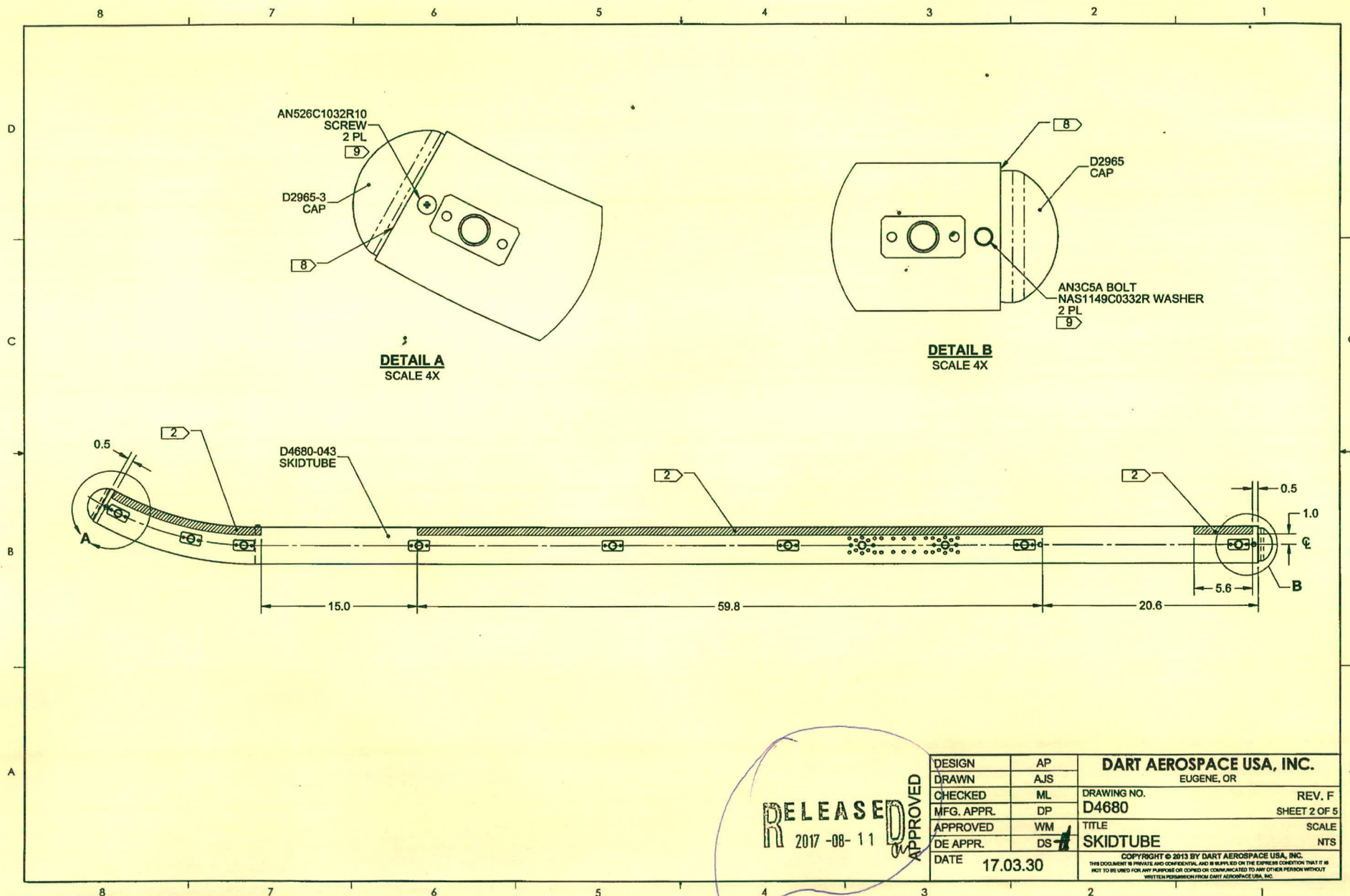
- 1) MATERIAL: N/A
- 2) FINISH: PAINT TOP SURFACE OF SKIDTUBE WITH MIL-W-5044 ANTI-SKID PAINT (WING WALK) AS INDICATED TO 1.00 ABOVE CENTERLINE PER QSI 005 SECTION 4.4
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4680-041" AND B/N PER QSI 044 METHOD 6.4 ON INNER RADIUS OF SKIDTUBE BEFORE INSTALLING D2965 CAP

- 7) WEIGHT: 19.3 lbs
- 8) SEAL FAYING SURFACES WITH SIKAFLEX -241/-291 OR PROSEAL 890/1422 OR MIL-S-8802 CLASS B-2 SEALANT
- 9) INSTALL FASTENERS WET WITH SIKAFLEX -241/-291 OR PROSEAL 890/1422 OR MIL-S-8802 CLASS B-2 SEALANT

RELEASED
2017-08-11
ENC-547

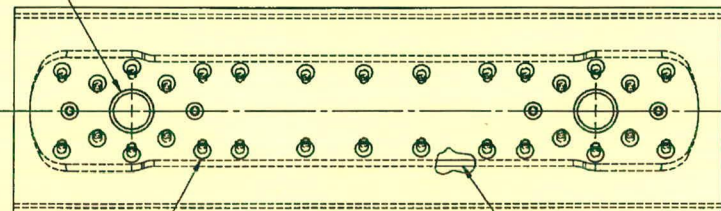
F	GENERAL REFORMAT. SHEET 3: ADD ITEMS 6 & 11 ADD NOTES 11 TO 13 AND ADD DETAIL H. SHEET 5: Ø0.188 WAS 0.750. WEIGHT UPDATE. ADD PROSEAL 1422	AJS	17.03.30
E	GROUND HANDLING CROSSBOLT SPACERS NOW SWAGED. WAS WELDED. REMOVED D3492-055 PLUG ASSEMBLIES	AP	15.11.02
D	MOVED AFT GROUNDING FASTENER HOLE AFT 0.25 DUE TO INTERFERENCE. ADDED NOTE 9 (SHT 1), GROUNDING STRAP WASHERS NOW STAINLESS	AP	15.03.04
C	NAS1149F0332P WAS AN860-10L, AN526C1032R10 WAS AN526C1032-10, FWD GROUNDING STRAP FASTENER MOVED AFT (C5-3), Ø0.750 WAS Ø0.758 (B4-3).	AP	14.07.29
B	FWD CAP WAS D2965 NOW D2965-3. VARIOUS DIMENSIONAL CHANGES. D3492-055 PLUG ASSY WAS D3492-051, SWAGING DIMENSION NOW 0.650 WAS 0.661 (C6-2), ADDED DETAIL H (C2-3), MATERIAL D2082-150 WAS D2962-131 (A7-3), GROUND HANDLING THRU HOLES NOW WELDED, ADDED SECTION G-G (D3-2)	AP	13.09.10
A	NEW ISSUE	AP	13.02.13
REV.	DESCRIPTION	BY	DATE
DESIGN	AP	DART AEROSPACE USA, INC. EUGENE, OR	
DRAWN	AJS		
CHECKED	ML	DRAWING NO.	REV. F
MFG. APPR.	DP	D4680	SHEET 1 OF 5
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	SKIDTUBE	NTS
DATE	17.03.30	COPYRIGHT © 2013 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED IN ANY FORM OR BY ANY MEANS WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

APPROVED



ITEM	QTY -043	P/N	DESCRIPTION
	X	D4680-043	SKIDTUBE SUB ASSY
1	1	D4680-1	SKIDTUBE
2	1	D4681-041	WEB ASSY
3	8	D4686-1	SPACER
4	16	D4753-1	DOUBLER
5	2	D5304-1	CROSSBOLT SPACER
6	2	D5520-1	DOUBLER
7	3	AN3C4A	BOLT
8	32	MS20601AD4W3	RIVET, BLIND, CSK
9	3	NAS1149C0332R	WASHER
10	3	AELS-1032-130	INSERT
11	68	CR3212-5-05	CSK RIVET, CHERRY MAX

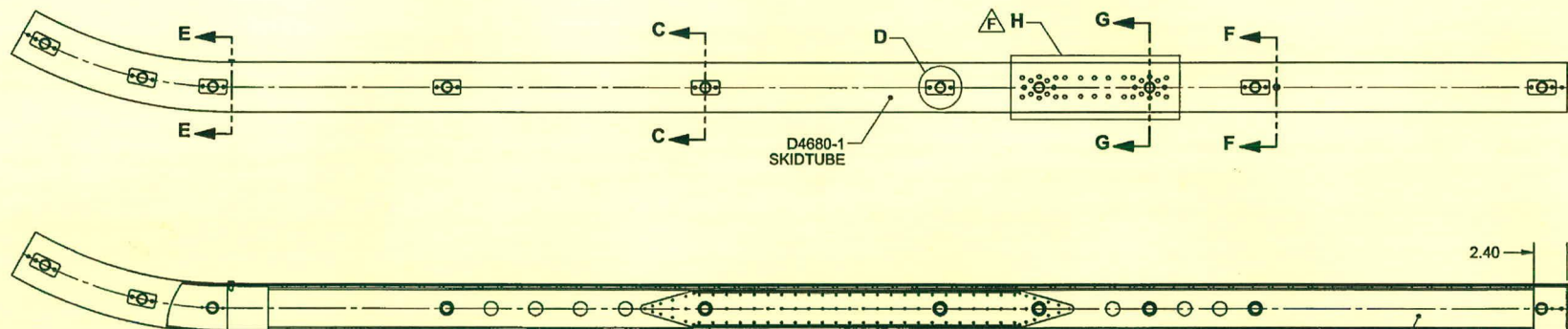
OPEN TO
Ø0.750
THRU 2 PL



13 12 CR3212-5-05
CSK RIVET, CHERRY MAX
34 PL PER DOUBLER

DETAIL H
SCALE 4X

11 D5520-1 DOUBLER
2 PL



D4680-043 SKIDTUBE SUB ASSY

9 D4681-041
WEB ASSY

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: APPLY CHEMICAL CONVERSION COATING PER DART QSI 005 4.1 PRIOR TO INSTALLING D4681-041 WEB.
POWDER COAT WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 18.6 lbs
- 8) SEAL ALL MATING SURFACES USING PROSEAL 890/1422 OR MIL-S-8802 CLASS B2 SEALANT
- 9) INSERT D4681-041 WEB INTO D4680-1 SKIDTUBE IN LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX -241/-291 ADHESIVE PER DART QSI 015
- 10) INSTALL D4686-1 SPACER AFTER INSTALLING D4753-1 DOUBLERS
- 11) LOCATE THE D5520-1 DOUBLER USING THE Ø0.188 PILOT HOLES ON THE SKIDTUBE AND DOUBLER
- 12) LOCATE QTY (34) HOLES ONTO THE SKIDTUBE PER D5520-1 DOUBLER AND DRILL Ø0.161 THRU SKIDTUBE AND DOUBLER USING DT10309
- 13) COUNTERSINK THE SKIDTUBE Ø0.286 X 100° (34 PL) AND INSTALL EACH D5520-1 DOUBLER USING QTY (34) CR3212-5-05 CSK RIVETS

RELEASED
2017-08-11

APPROVED

DESIGN	AP
DRAWN	AJS
CHECKED	ML
MFG. APPR.	DP
APPROVED	WM
DE APPR.	DS
DATE	17.03.30

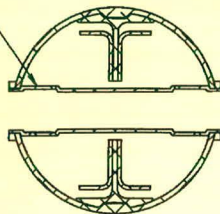
DART AEROSPACE USA, INC.

EUGENE, OR

DRAWING NO.	REV. F
D4680	SHEET 3 OF 5
TITLE	SCALE
SKIDTUBE	NTS

COPYRIGHT © 2013 BY DART AEROSPACE USA, INC.
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS
NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT
WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.

D4686-1
SPACER

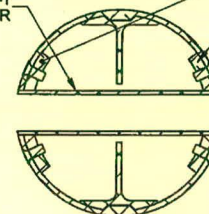


INSTALL D4686-1 SPACER AS FOLLOWS (8 PL)
AFTER INSTALLING D4753-1 DOUBLERS PER DETAIL D

1. INSERT D4686-1 SPACER
2. SWAGE TO $\phi 0.650 +0.010/-0.000 \times 1.0$
DEEP PER QSI 002
3. TRIM/GRIND FLUSH PER QSI 002

SECTION C-C
SCALE 4X
8 PL

D5304-1
CROSSBOLT SPACER



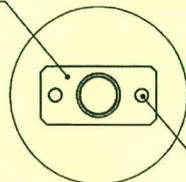
D5520-1 DOUBLER
REF

INSTALL D5304-1 SPACER AS FOLLOWS (2 PL)

1. INSERT D5304-1 SPACER
2. SWAGE TO $\phi 0.565 +0.005/-0.000 \times 1.0$
DEEP PER QSI 002
3. OPEN THRU HOLE TO $\phi 0.625$

SECTION G-G
SCALE 4X
2 PL

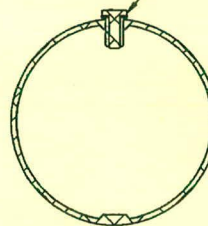
D4753-1
DOUBLER



MS20601AD4W3
RIVET, BLIND, CSK
2 PL

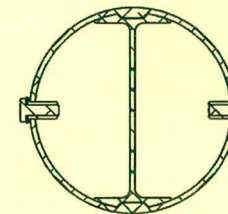
DETAIL D
16 PL (BOTH SIDES)
SCALE 4X

AN3C4A BOLT
NAS1149C0332R WASHER
AELS-1032-130 INSERT



SECTION E-E
SCALE 4X

AN3C4A BOLT
NAS1149C0332R WASHER
AELS-1032-130 INSERT
2 PL



SECTION F-F
SCALE 4X

RELEASED
2017-08-11

APPROVED

DESIGN	AP	DART AEROSPACE USA, INC. EUGENE, OR	
DRAWN	AJS		
CHECKED	ML	DRAWING NO.	REV. F
MFG. APPR.	DP	D4680	SHEET 4 OF 5
APPROVED	WM	TITLE	SCALE
DE APPR.	DS-#	SKIDTUBE	NTS
DATE	17.03.30	COPYRIGHT © 2013 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

